

# **Product Information**

## **TLM 127**

**Large Diaphragm  
Microphone**



**75 Years ▶▶**

**T**he TLM 127 is a large-diaphragm studio microphone with omnidirectional and cardioid directional characteristics. In addition, via a special power supply it is possible to use remote control to switch between the five directional characteristics: omnidirectional, wide-angle cardioid, cardioid, hypercardioid and figure-8.

The TLM 127 is addressed from the front, marked with the Neumann logo. On the front of the microphone is also the switch for selecting the directional characteristic. There are 3 settings: omnidirectional, cardioid, and remote control ("R").

On the back of the microphone is a 14 dB attenuation switch, as well as a high-pass filter switch with 2 settings: -3 dB cut-off frequency 15 Hz ("LIN"), and 100 Hz.



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### **Applications**

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The comprehensive control features, which permit optimal adjustment to particular requirements, make the TLM 127 well-suited to a wide range of applications. It is an extremely flexible tool, appropriate for advanced operators of home recording studios as well as for experienced audio professionals who place the highest demands on the sound and technical capabilities of a microphone.

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### **Acoustic Features**

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When the cardioid setting is used the capsule has a flat frequency response up to 3 kHz and an increased presence of 3 dB at higher frequencies.

The wire mesh headgrille houses the large-diaphragm K 127 capsule. This capsule is derived from the K 103 (of the TLM 103), which accounts for its outstanding impulse response. The TLM 127 is thus capable of reproducing all transient phenomena of music and speech without any coloration.

The sound character of the microphone is determined exclusively by the capsule; no electronic equalization is used.

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### **Polar Patterns**

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Via a special power supply, the five directional characteristics omnidirectional, cardioid, figure-8, hypercardioid and wide-angle cardioid can be selected by remote control. The directional characteristic switch on the front of the microphone must be set to "R" (remote control).

The hypercardioid directional characteristic is superior to the cardioid in suppressing sounds to the left and right of the source, while the wide-angle cardioid is especially suitable for recording large sound sources.

# TLM 127

## Large Diaphragm Microphone

### Electrical Features

The TLM 127 is a fet 100 series studio microphone. The letters TLM stand for "Transformerless Microphone".

By means of modern circuit technology, the self-noise level of the TLM 127 has been reduced significantly relative to that of comparable conventional microphones. The TLM 127 transmits a sound pressure level of 140 dB without distortion, and provides a dynamic range of 132 dB with no switchover (in accordance with DIN/IEC 651).



### Filter and Preattenuation

Two switches are located on the back of the TLM 127 microphone. The left switch reduces the sensitivity of the microphone by 14 dB, and should be used only when there is a risk that very high sound pressure levels could overload following devices. The switch does not expand the dynamic range of the microphone, but rather shifts it upward by 14 dB to higher sound pressure levels.

The slide switch on the right sets the cut-off frequency of a high-pass filter built into the microphone. When the "LIN" setting is used, a high-pass filter suppresses frequencies below 15 Hz by 12 dB/octave. Alternatively, the cut-off frequency can be set to 100 Hz. This setting may be used, among other things, to suppress the proximity effect.



### Features

- Studio microphone, controlled locally or remotely
- Pressure-gradient transducer with double-diaphragm capsule (based on the K 103)
- Switchable to omni and cardioid + remotely controllable polar pattern (subcardioid, hypercardioid and figure-8)
- Extremely low-noise: 8 dB-A
- High SPL capability: 140 dB
- Transformerless circuit technology
- Switchable 14 dB preattenuation and low-frequency roll-off
- Complete set including elastic suspension

### Application Hints

- For universal use
- Announcer's mic for broadcasting/voice over
- Ideal mic for close miking of instruments with high sound pressure levels
- Spot mic for wind instruments, especially trumpet and saxophone, strings, piano, kick drum, guitar amps
- During recordings when the mic is in a location where it is difficult to change polar patterns, for example, suspended from a ceiling. A special remote control is available.

*These are just some of the most common applications. We recommend additional experimentation to gain maximum use from this microphone.*

### Remote Control

In principle, any P48 power supply is suitable for powering the TLM 127. When a standard P48 power supply is used, the switch on the microphone can be used to select the omnidirectional or cardioid directional characteristic.

Using a special power supply unit that will be available from Neumann at the beginning of 2004 the directional characteristics of the TLM 127 can be controlled remotely and the additional directional characteristics (wide angle cardioid, hypercardioid and figure 8) can be used.

The absolute level of the phantom voltage indicates to the microphone which directional characteristic is to be used. As in conventional operation, cable lengths of up to 300 m are permissible.

Since the voltage variation is within the normed tolerance range of phantom powering, the power supply unit can also be used with any conventional microphone designed for P48 operation.

Mixed operation is also possible. Thus a TLM 127 can be controlled remotely at one output, while a conventional microphone is powered by the second output.



## Operational Reliability

The entire internal assembly is elastically mounted to reduce interference from structure-borne noise. In addition, the capsule is set on an elastic mount.

The frequency range of the TLM 127 extends well below 20 Hz. Thus even extremely low-frequency signals can be reproduced without coloration.

This naturally also makes the microphone more sensitive to low-frequency interference signals, such as structure-borne and wind noise. To counteract this, the EA 1 elastic suspension (included) and the WS 87 windscreen may be used. For close vocal use, the PS 15 or PS 20 a pop screen is recommended.



## Delivery Range

TLM 127 (mt) Microphone, EA 1 (mt) Elastic suspension in Wooden box

**Stereo-set:** 2x TLM 127 (mt) Microphone, 2x EA 1 (mt) Elastic suspension in aluminium case

## Catalog No.

TLM 127 .....	ni .....	08475
TLM 127 mt .....	blk .....	08486
TLM 127 Stereo-set .....	ni .....	08512
TLM 127 mt Stereo-set .....	blk .....	08513

## Selection of Accessories

Battery supply, BS 48 i .....	blk .....	06494
Battery supply, BS 48 i-2 .....	blk .....	06496
Power supply, N 48 i-2 (230 V) .....	blk .....	06500
Power supply, N 48 i-2 (117 V) .....	blk .....	06502
Remote control power supply, N 248 (230 V) .....	blk .....	*)
Remote control power supply, N 248 (117 V) .....	blk .....	*)
Remote control power supply, N 48 R-2 (230 V) .....	blk .....	07181
Remote control power supply, N 48 R-2 (117 V) .....	blk .....	07182
Double mount, DS 120 .....	blk .....	07343
Auditorium hanger, MNV 87 .....	ni .....	06804
Auditorium hanger, MNV 87 mt .....	blk .....	06806
Popscreen, PS 15 .....	blk .....	08472
Popscreen, PS 20 a .....	blk .....	08488
Windscreen, WS 87 .....	blk .....	06753
Microphone cable, IC 3 mt .....	blk .....	06543

\*) available at the beginning of 2004

A complete survey and detailed descriptions of all accessories are contained in the accessories catalog

Meaning of color codes: blk = black, ni = nickel

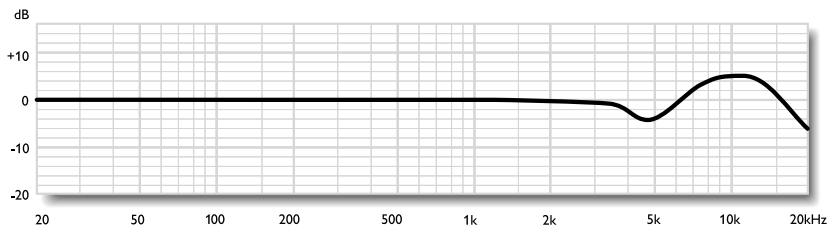
## Technical Data

Acoustical operating principle .....	Pressure gradient transducer
Directional pattern .....	Omnidirectional, cardioid, (wide angle cardioid, hypercardioid and figure-8 also available, via remote control)
Frequency range .....	20 Hz...20 kHz
Sensitivity at 1 kHz into 1 kohm .....	12 mV/Pa
Rated impedance .....	50 ohms
Rated load impedance .....	1000 ohms
Equivalent SPL CCIR 468-3 .....	20 dB
Equivalent SPL DIN/IEC 651 .....	8 dB-A
S/N ratio CCIR 468-3 .....	74 dB

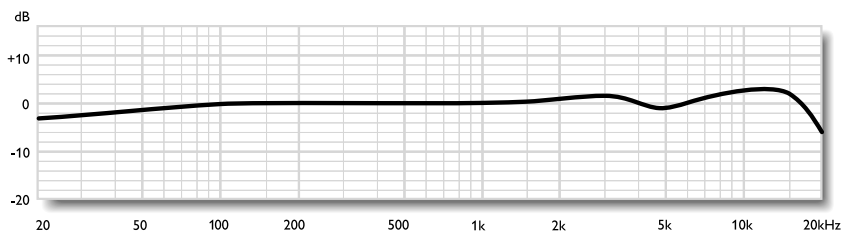
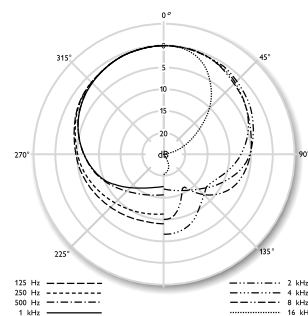
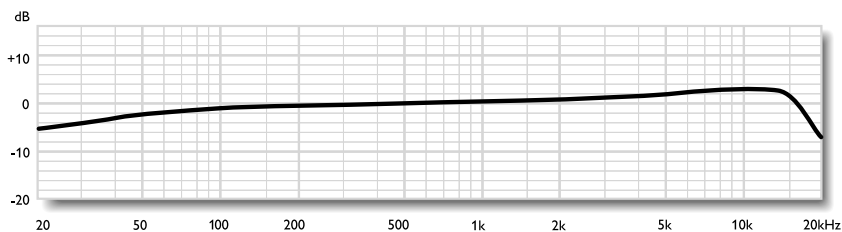
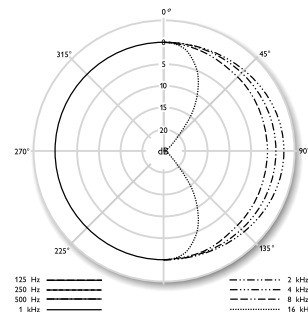
S/N ratio DIN/IEC 651 .....	86 dB
Maximum SPL for THD 0.5% .....	140 dB
Maximum output voltage .....	10 dBu
Dynamic range of the microphone amplifier DIN/IEC 651 .....	132 dB
Supply voltage .....	48 V ± 4 V
Current consumption .....	3.2 mA
Matching connector .....	XLR 3 F
Weight .....	450 g
Diameter .....	57 mm
Length .....	173 mm

# TLM 127

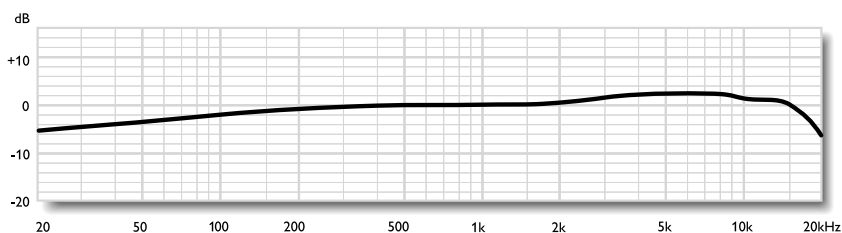
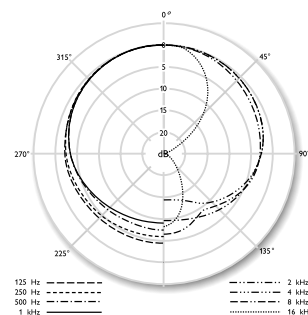
## Large Diaphragm Microphone



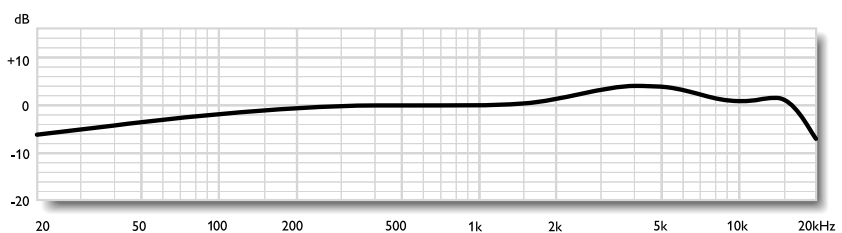
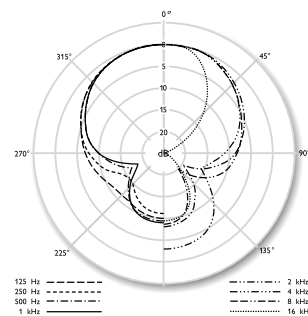
measured in free-field conditions (IEC 60268-4)



\* only when used with remote control power supply



\* only when used with remote control power supply



\* only when used with remote control power supply

